

Thank you for purchasing a reflective microetching!

Now it's time to make it really shine with some lighting tips. *First off, watch the video I sent in its entirety please, it will clear up 90% of questions you may have* (<https://vimeo.com/373824303>). Then, go through this checklist to decide on your lighting strategy. These specific product recommendations are to give you an idea, but there are many other options out there that will work so don't feel as if you must choose the specific fixtures/ bulbs etc I recommend below. I can't possibly test everything out personally.

General Principles in Lighting Microetchings:

1. The smaller the bulbs you use, the sharper the reflective animations on the etching will be (MR16 GU5.3 and GU10 are my favorites, but I prefer MR16 GU5.3 bulbs as there are more options for this bulb type available across fixtures and bulbs)



2. Light etchings with lights about 30 degrees off the top of the etching, but anything between about 20-40 degrees is good.
3. Color is very flexible- you can have 1 light or 20 colored lights on these. The closer the bulbs are next to each other, the more closely those adjacent colors will mix and "follow" each other on the etching.
4. Best to hang in spots with less ambient light
5. Best to hang away from broad light sources (such as fluorescent tube lights).

Part 1. WHERE TO HANG YOUR ETCHING

Choose a spot to hang the etching. Best away from windows and ambient light. Hanging on a wall with windows or perpendicular to windows is better than ACROSS from windows as the ambient light affects brightness of the etching.

Part 2. CHOOSING A LIGHTING FIXTURE

Do you want to move the etching from place to place occasionally? Do you want a single white light? Multicolored light? Will you be changing the lighting up frequently? Choose one of the following lighting options to suit your needs:

Track lighting (best and most flexible option):



Track lighting allows you to easily change light positions, turn one or more bulbs on or off, achieve varied and spectacular color effects, etc. If you have an existing track system, ideal! If not, you will need to have one installed which will most likely involve an electrician. Only drawback to track lighting is that once installed, it can't be easily moved.

Here are examples of track lighting kits. You want a kit that has *removable* MR16 GU5.3 or GU10 bulbs (many track heads out there have a bulb built into them which can't be removed), swiveling heads, and allows the lighting fixtures to be easily slid around on the track.

[Track light kit 1](#)

[Track light kit 2](#)

Search "track lighting kit" and many other options will come up.

For further information on bulbs for your track fixtures, look in the Bulbs section of this document.

Wall Mounted Lighting (an elegant presentation)



Perhaps you will be hanging in a spot where track lighting isn't possible or desired- wall mounted lights are a good option. They need to come off of the wall in order to satisfy that ~30 degree lighting angle from above and I recommend choosing ones that take either MR16 or GU10 bulbs. Some wall mounted lights can be repositioned or swiveled around to vary the lighting effects, but many are fixed in place. Like track lighting, once wall lights are installed by an electrician they are not easily moved. In my opinion these work for one or two lights on the etching, but any more than that and the wall starts to look cluttered.

Here are a few good examples of wall lights that would work (tip- you do NOT want the wide style picture lights for these, they are the worst possible type of light you can put on a microetching):

[This one gets hard wired into the wall](#) (takes MR16 bulb)

[Another for hard wiring](#) (also takes MR16 bulb)

Recessed lighting installed in ceiling



Make sure that you get fixtures that swivel. These will have to be installed by an electrician, and they cannot be moved from side to side to adjust lighting effects. They do make for a clean display though. I recommend going by your local hardware store and seeing what they have and verifying that the bulbs can swivel and be removed, sometimes that isn't clear from online sites.

Lighting that clips onto frame (simple and flexible)



If you're looking to set up ASAP, there are a variety of lights available that would either clip onto the frame itself or mount onto the wall and be powered with a plug (as opposed to hard wiring into the wall like the recommendations in the Track Lighting and Wall Mounted Lighting section). These can be easily moved around, but their disadvantage is that you will have to deal with the electrical cords coming off of the lamps. You can hide these with a conduit or cord cover if you'd like.

The only other issue with this setup is oftentimes the lights are very close to the etching and you will need a very wide angle bulb to illuminate the etching evenly. Please see the Bulbs section for more information (get 60 degree beam angle bulbs, the SORAA snap ons if you want to gel them).

[This one plugs into the wall and is able to swivel on a gooseneck](#) (takes MR16 bulb)
[Clamp on lights I use for my own displays](#) (takes MR16 GU5.3 bulb)

IF you go with this method and clamp something onto the frame, you will need to space the frame off of the wall a bit to make room for that clipping hardware. I recommend getting:

[1 pack of these rubber stoppers](#)

[1 pack of these screws to screw the stoppers into the back of the frame](#)

Simply thread the screw through the stopper, then screw assembly into back of frame. Screw one into each corner for a total of 4. Screw them into the inside edge of the frame in the back so that the stoppers don't stick out the side.



You can now hide the power transformer, etc behind the frame and have one simple cable come out the bottom.

[Here are some cord covers](#) to hide any cables coming down

Part 3- BULBS AND COLOR

Ok, you've chosen your lighting fixture, and you now need to get compatible bulbs. In terms of brightness, I like having dimmable systems so I can vary it. The more ambient light you have in the room, the more light you'll want on the etching to make it pop. In general, 300-500 lumen bulbs with the correct beam angles will look great almost anywhere.

Simply look up what type of bulb your fixture uses and use this guide to buy a few. If you are planning on using lighting gels (thin sheets of colored acetate) to color the light, buy white bulbs and stick the gels on those. There are also dedicated color bulbs and RGB bulbs which will be discussed below.

For all of the below bulbs, you will want to choose a beam angle that best lights your etching. Essentially, the closer the bulb is to the etching the wider the beam angle you want, and the further away the bulb is the narrower the beam angle you want. If you're 2-5 feet off of the center of the etching, use beam angles about 50 degrees and higher. If you are 5-10 feet away (e.g. on a track light), a narrower spot would be better between about 20-40 degrees. Here's a handy guide:

Degree of Light	From 5 Feet Away	From 10 Feet Away	From 15 Feet Away	From 20 Feet Away
10	0.9 feet wide	1.8 feet wide	2.7 feet wide	3.6 feet wide
15	1.35 feet wide	2.7 feet wide	4.05 feet wide	5.4 feet wide
20	1.8 feet wide	3.6 feet wide	5.4 feet wide	7.2 feet wide
25	2.25 feet wide	4.5 feet wide	6.75 feet wide	9 feet wide
40	3.6 feet wide	7.2 feet wide	10.8 feet wide	14.4 feet wide
45	4.05 feet wide	8.1 feet wide	12.5 feet wide	16.2 feet wide
60	5.4 feet wide	10.8 feet wide	16.2 feet wide	21.6 feet wide
90	8.1 feet wide	16.2 feet wide	24.3 feet wide	32.4 feet wide
120	10.8 feet wide	21.6 feet wide	32.4 feet wide	43.2 feet wide

Note that many specialized color bulbs don't have many beam angle options, so just do your best with these!

1. White light bulbs

They come in warm white, neutral white, and cool white. I prefer the first two, but choose whatever you'd like. I like LED halogen bulbs that are dimmable (make sure that your fixture supports dimming, otherwise get non dimmable bulbs).

[These are good bright MR16 GU5.3 bulbs](#) (compatible with SORAA snap system)

Their beam angle can be adjusted with these optics that snap on (these are also really handy for holding gels in place- just cut them in circles and put them between the bulb and the optic).

[Turn those 10 degree bulbs above into a 36 degree bulb](#)

[Turn those 10 degree bulbs above into a 60 degree bulb](#)

I mention these bulbs because the snap system makes it easy to change the beam angle and light with colored gels. There are many, many other bulbs available that would also work just fine, and you can find the right beam angle, brightness, dimmability, etc etc):

[MR16 GU5.3 bulbs](#)

[MR16 GU10 bulbs](#) (not quite as many options for this base)

1a. Lighting gels



If you want to tint those white light bulbs, get the SORAA snap system mentioned above and get yourself a [book of lighting gel samples](#). Many to choose from, and when you find one you like just cut a circle out of it and stick it between the bulb and the optic to color the light.

2. Dedicated Color Bulbs

Gels filter white light to get the desired wavelength, whereas dedicated color LED bulbs only produce the wavelength of interest. This makes them more intense and bright, though they only come in four colors- blue, green, red, and amber. Again, choose the ones with the correct beam angle to suit your fixture/ etching arrangement. One color of these looks amazing with one other single white light. An easy and effective arrangement.

[Here are a few in MR16 GU5.3](#)

3. RGB smart bulbs



These are an upcoming product that offers the convenience of being able to alter hue, saturation, and brightness of multiple bulbs independently with a remote control. There are a few types on the market- when they work they are awesome, but in reading a lot of reviews it also appears that they can buzz, fail over time, etc.

[Here are the bulbs I was using in the video](#) (these are an MR16 GU10 base)

[Here are the same type of bulbs](#) but in MR16 GU5.3

NOTE- When you're looking for these, do NOT buy RGB bulbs like the ones below with the frosted, rounded tops- these will not give you the sharpness or brightness you are looking for.



Part 4- Conclusion

Thank you very much for reading, that will do it! I have tried to include as much information as possible here to anticipate as many questions as I can- much of this you won't need to think about at all depending on the setup you go with. Happy lighting, and please send me pix of your setups when you get things up and running!